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5/23/00

Inspection: Facility: U.S. Department of Energy Hanford

ID No.: WA 789000 8967

Date of Inspection: May 23, 2000

Date of Report: May 26, 2000

Address: Richland, Washington 99352

Report Prepared by: Jack Boller, U.S. EPA *Jack Boller*

Inspectors: Jack Boller, EPA/WOO
Bob Wilson, Ecology

Purpose:

This inspection was conducted to determine the facility's compliance with United States and State of Washington Hazardous Waste laws.

Facility Description:

The United States Department of Energy (USDOE) Hanford facility is located on a 570 square mile tract of land north of Richland, Washington. It is comprised of several concentrated areas of activity scattered across the site with large open areas between them. Hanford was operated as a nuclear weapons production facility beginning in the 1940's. Weapons production has ceased and current activities consist mainly of environmental cleanup of widespread contamination. As part of this activity a wide range of waste streams are generated.

Notification and Permits:

The facility has a final RCRA permit. The permit covers several TSD units. Several other units continue to operate under interim status. The final permit is revised annually to convert units from interim status to final status as permit conditions are approved.

Inspection:

At 9:20 am on May 23, 2000 Bob Wilson and I arrived at the 340 complex to conduct a hazardous waste inspection. We were met there by Don McBride, Steve Garnett, Bob Stordeur, Tom Frazier, Jon Perry, Albert Montelongo, and Chris Strand, all of Fluor Daniel. Mr. McBride gave an overview of the 340 facility operations.

No waste has been received or processed at the facility since 1998. The facility consists of two 15,000 gallon below grade tanks in a concrete vault and six above grade 5,000 gallon tanks in building 340A. The six above grade tanks were sluiced with water in 1998 and are considered empty.

The two below grade tanks were pumped out in 1998 but have a heel of about 5000 liters (approximately 1200 gallons) remaining in each tank. Mr. McBride explained that the intake pipe for the pumps is located about one foot from the bottom of the tank and the pumps require

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liquid to be present above this level to prevent cavitation. This waste material is subject to removal per TPA milestone M-92-13, 300 Area special case waste. Current plans call for its removal sometime between 2002 and 2006. When the tanks were actively receiving waste, the waste came from 324, 325, 326, 327, and 329 buildings. Waste receipt documentation viewed at the site indicated that the waste contained F listed solvents and regulated levels of metals.

Conclusion:

The tanks have been holding RCRA regulated waste for two years without a RCRA permit for storage. Immediate closure of the tanks should be required.

See attached field notes from Bob Wilson for more information.

Department of Ecology

Inspection Field Notes from May 24, 2000 SEA Inspection of USDOE Hanford Site 340 Facility

Inspection:

Jack Boller (USEPA Region 10) and I arrived at the 340 Complex in the 300 Area of the Hanford Site at 0920 hours. We were met by the following Fluor Hanford: Don McBride (340 facility Mgr), Steve Garnett (300 Liquids effluents operations Mgr), Bob Stordeur (340 Complex cognizant engineer), Tom Frazer (Environmental Services), Jon Perry, Albert Montelongo, and Chris Strand.

Mr. McBride gave an overview of the 340 Complex saying the facility was operated as a 90-day accumulation area for 300 Area laboratories until 1998. The 340 Complex is composed of the 340 building which houses a decontamination facility for radiologically decontamination of sampling and small equipment, the vault tanks (two 15K-gallon tanks in an underground concrete vault), the 340-A building which houses six above ground tanks approximately 15 ft. in diameter and twenty ft. tall, and the 340-B building in which waste stored in the vault tanks had been loaded out of the facility by truck and rail.

Mr. McBride said the 340-A tanks had been sluiced and flushed to the vault tanks in March, 1998 and were considered empty per RCRA standards. Mr. McBride said the two vault tanks held about 5,000 liters of waste each. He said after sluicing of the 340-A tanks the vault tanks contained about 7,200 liters of waste, but this had evaporated to the current 5,000 liters.

I asked why the remaining heel in the vault tanks was so high (5,000 liters). Mr. McBride said the pump intake was located about 12" from the bottom of the tank and that the tank pumps required some liquid above the intake to prevent cavitation when the pumps operated. Mr. McBride said the waste in the vault tanks was subject to removal per TPA Milestone M-92-13, 300 Area special case waste.

I asked what dose rates existed in the vault of the vault tanks. Mr. McBride said the dose rate in the vault was approximately 900 milirem in the area.

I asked if there was a closure plan for the 340 Complex. Mr. McBride said no, closure of the facility was being negotiated between Ecology, EPA and USDOE as part of cleanup of the 300-FF-2 CERCLA Operable Unit.

We walked to the 340 building and entered it. We viewed the decontamination area (photo). We observed a satellite accumulation area drum which was appropriately labeled and closed (photo). We observed a sink and sump in which liquid wastes were generated from small scale decontamination operations (photo). Mr. McBride said the sump was blanked off and any liquids generated in this area were collected from the sump and containerized. Mr. McBride said all mixed waste generated in the 340 decontamination area were shipped to permitted storage in the central waste complex in the 200 West Area of Hanford.

We walked to the vault tank operations room and observed the liquid level monitoring surveillance system. It was operating and indicated the tanks held approximately 5,000 liters of waste.

We walked to the 340-A building, opened the door and observed the above ground tanks within (photo). We did not see any stains or evidence of spills in the 340-A building.

We walked to the 340-B building and observed the rail load-out portion on the east side of the building (photo). I noted a valve with a lock-out tag on it (photo). Mr. McBride said this valve directed liquids collected in the rail loading area to the vault tanks. He said the valve was tagged-out to prevent liquids entering the vault tanks from this area.

We returned to the 340 building where we reviewed waste receipt records for the 340 building from 1996 and 1997. Jack requested and received copies of three waste shipment log entries. We left the facility at 1030 hours.

Bob Wilson 05/24/00
Bob Wilson

RADIOACTIVE LIQUID WASTE TRANSFER REQUEST

RLWS Transfer No. 97-003

Generator Name: MSIN

Rick Steele

Generating Facility

325

Phone

372-0038

PHYSICAL CHARACTERIZATION

Waste volume = 5 liters Flush volume = 150 liters Total Transfer volume = 155 liters

☒ One-Time Transfer Request ☐ Multiple Transfer Request

Waste Description: 325-B nom 32 accumulation tank

* chemical and radiological data is based on documented process knowledge and data from past analyses.

- see attached for composition -

Waste Composition

Fissile Content (grams/gal): <u>6.3e-4</u>	< 0.01 g/gal
Maximum Particle Size (microns): <u>1/100</u>	≤ 100 μm
Are solidifying substances present? <u>no</u>	Not Allowed
Are separable organics present? <u>no</u>	Not Allowed
pH: <u>8</u>	pH ≤ 13
Chloride Content (moles/l): <u>10.01</u>	< 0.01M [Cl]
Total Organic Carbon (%): <u>< 1</u>	TOC < 1%

RLWS Limits

RADIOLOGICAL CHARACTERIZATION

List all known radionuclides and activity levels (indicate units):

- see attached -

Dose Rate:

(indicate units and distance)

120 mR/hr
at tank
surface

DANGEROUS WASTE INFORMATION

Identify all applicable waste codes:

<input type="checkbox"/> D002	<input type="checkbox"/> D004	<input type="checkbox"/> D005	<input type="checkbox"/> D006	<input checked="" type="checkbox"/> D007	<input checked="" type="checkbox"/> D008	<input type="checkbox"/> D009
<input checked="" type="checkbox"/> D010	<input checked="" type="checkbox"/> D011	<input type="checkbox"/> D018	<input type="checkbox"/> D019	<input type="checkbox"/> D022	<input type="checkbox"/> D028	<input type="checkbox"/> D029
<input type="checkbox"/> D030	<input type="checkbox"/> D033	<input type="checkbox"/> D034	<input type="checkbox"/> D035	<input type="checkbox"/> D038	<input type="checkbox"/> D039	<input type="checkbox"/> D040
<input type="checkbox"/> D041	<input type="checkbox"/> D043	<input checked="" type="checkbox"/> F001	<input checked="" type="checkbox"/> F002	<input checked="" type="checkbox"/> F003	<input checked="" type="checkbox"/> F004	<input checked="" type="checkbox"/> F005
<input type="checkbox"/> WT01	<input type="checkbox"/> WT02	<input type="checkbox"/> WP01	<input type="checkbox"/> WP02	<input type="checkbox"/> WP03	<input type="checkbox"/> WC01	<input type="checkbox"/> WC02

INDICATE: ☒ DW or ☐ EHV

Other waste codes:

(Note: If your waste code(s) are not listed above, the 340 Facility may

not be prepared to properly manage it. Contact 340 Facility Management at 376-5657 for assistance.)

< 90-Day Accumulation
Start Date:

* 12/3/96 *

Does this waste contain a reportable quantity (RQ) 40 CFR 302.4? no
If "YES" then identify the hazardous substance(s) and the corresponding RQ value(s).

Is this waste a hazardous waste subject to the land disposal restrictions of 40 CFR 268? yes
(If "YES" then attach required LDR information.)

GENERATOR CERTIFICATION

This is to certify that, to the best of my knowledge and ability, the waste described on this form is properly designated and completely described in accordance with the applicable requirements. I understand there are significant penalties, including fines and imprisonment, for falsifying such information.

DE Faulk R. Steele

Printed/Typed Name

DE Faulk

Signature

1/6/97

Date

RLWS TRANSFER APPROVAL

Special Instructions:

340 Facility Review/Approval Authority:

DE Faulk R. Steele

Printed/Typed Name

DE Faulk

Signature

1/13/97

Date

Revision

Send completed forms to: 300 Area LEF Facility Manager

MSIN L6-04

PNL Bldg. Mgr.

Chemical composition

based on ICP, IC, TOC analysis
sample # 93-4695

and documented process knowledge (analytical procedures)

0.05%
~~0.02%~~ ^{AP} sodium bicarbonate

99.95% water

trace amounts (<20ppm) of:

Chromium

Silver

lead

Selenium

other ^{TCP} metals present below regulatory limits.

- <0.01% DST/SST

Radionuclide composition

based on total α , total β , GEA
sample # 93-4695

and documented process knowledge

^{60}Co 7.6×10^{-3} $\mu\text{Ci/mL}$

^{106}Ru 2.0×10^{-3} $\mu\text{Ci/mL}$

^{134}Cs 1.4×10^{-2} $\mu\text{Ci/mL}$

^{137}Cs 9.2×10^{-1} $\mu\text{Ci/mL}$

^{144}Ce 1.77×10^{-3} $\mu\text{Ci/mL}$

^{154}Eu 3.1×10^{-2} $\mu\text{Ci/mL}$

^{155}Eu 1.07×10^{-2} $\mu\text{Ci/mL}$

^{241}Am 3.6×10^{-2} $\mu\text{Ci/mL}$

^{239}Pu 7.8×10^{-3} $\mu\text{Ci/mL}$

^{240}Pu 7.8×10^{-3} $\mu\text{Ci/mL}$

^{238}Pu 5.99×10^{-2} $\mu\text{Ci/mL}$

^{244}Cm 2.49×10^{-2} $\mu\text{Ci/mL}$

~~0.0005551~~ ^{AP} 0.000699

~~0.00013551~~ ^{AP} 0.00017.9

~~1.3 \times 10^{-5}~~ ^{AP} 1.75×10^{-5}

RADIOACTIVE LIQUID WASTE TRANSFER REQUEST

RLWS Transfer No. 97-004

Generator Name: Kriston Brooks

Generating Facility
324

Phone
376-2233

PHYSICAL CHARACTERIZATION

Waste volume = 12 liters Flush volume = 150 liters Total Transfer volume = 162 liters

☒ One-Time Transfer Request ☐ Multiple Transfer Request

Waste Description: C-106 supernate

Tank C-106 supernate studies - waste includes water 89%, sodium hydroxide 10% (neutralized), 0.83% trace anions and cations including aluminum, boron, chromium, lead, silicon, sodium, nitrate, nitrite, oxalate, sulfate / 2.7% DST/SST

Waste Composition

Fissile Content (grams/gal): 1.4e-4 < 0.01 g/gal
Maximum Particle Size (microns): < 100 ≤ 100 μm
Are solidifying substances present? NO Not All
Are separable organics present? NO Not All
pH: 9 pH ≤
Chloride Content (moles/l): < 0.01 < 0.01 M
Total Organic Carbon (%): < 1 TOC < 1

NO1

RADIOLOGICAL CHARACTERIZATION

List all known radionuclides and activity levels (indicate units):

¹³⁷Cs 0.29 Ci, ⁹⁰Sr 1.8e-3 Ci, ²³⁹Pu 6.7e-6 Ci, ²⁴⁰Pu 6.7e-6 Ci,
²⁴¹Am 3.2e-5 Ci, ⁹⁹Tc 3.7e-5 Ci

Dose Rate:
(indicate units and distance)

5 R/hr @
contact

DANGEROUS WASTE INFORMATION

Identify all applicable waste codes:

<input type="checkbox"/> D002	<input checked="" type="checkbox"/> D004	<input checked="" type="checkbox"/> D005	<input checked="" type="checkbox"/> D006	<input checked="" type="checkbox"/> D007	<input checked="" type="checkbox"/> D008	<input checked="" type="checkbox"/> D009
<input checked="" type="checkbox"/> D010	<input type="checkbox"/> D011	<input checked="" type="checkbox"/> D018	<input type="checkbox"/> D019	<input type="checkbox"/> D022	<input type="checkbox"/> D028	<input type="checkbox"/> D029
<input checked="" type="checkbox"/> D030	<input checked="" type="checkbox"/> D033	<input type="checkbox"/> D034	<input type="checkbox"/> D035	<input type="checkbox"/> D038	<input type="checkbox"/> D039	<input type="checkbox"/> D040
<input type="checkbox"/> D041	<input checked="" type="checkbox"/> D043	<input checked="" type="checkbox"/> F001	<input checked="" type="checkbox"/> F002	<input checked="" type="checkbox"/> F003	<input checked="" type="checkbox"/> F004	<input checked="" type="checkbox"/> F005
<input type="checkbox"/> WT01	<input type="checkbox"/> WT02	<input type="checkbox"/> WP01	<input type="checkbox"/> WP02	<input type="checkbox"/> WP03	<input type="checkbox"/> WC01	<input type="checkbox"/> WC02

INDICATE: ☒ DRY or ☐ EHV

Other waste codes:

(Note: If your waste code(s) are not listed above, the 340 Facility may not be prepared to properly manage it. Contact 340 Facility Management at 376-5657 for assistance.)

< 90-Day Accumulation
Start Date:

N/A

Does this waste contain a reportable quantity (RQ) 40 CFR 302.4? NO
If "YES" then identify the hazardous substance(s) and the corresponding RQ value(s).

Is this waste a hazardous waste subject to the land disposal restrictions of 40 CFR 268? yes
(If "YES" then attach required LDR information.)

GENERATOR CERTIFICATION

This is to certify that, to the best of my knowledge and ability, the waste described on this form is properly designated and completely described in accordance with the applicable requirements. I understand there are significant penalties, including fines and imprisonment, for falsifying such information.

D.E Faulk for K. Brooks

D.E Faulk

1/8/97
Date

Printed/Typed Name

Signature

RLWS TRANSFER APPROVAL

Special Instructions:

340 Facility Review/Approval Authority:

[Signature]

[Signature]

1/13/97
Date

Printed/Typed Name

Signature

Send completed forms to: 300 Area LEF Facility Manager
MSIN L6-04

PNL Bldg. Mgr.

Revised